

RELATIONSHIPS BETWEEN VEHICLE PARAMETERS AND TRACK DAMAGE REPAIR COSTS

Railway track deteriorates under the passage of vehicles and therefore work has to be done and costs are incurred in maintaining the track to the required standard. The amount of work is dependent on the type of traffic using the line and the standard required of the track.

The mini-MARPAS computer method, which has been developed by British Rail Research, calculates the track maintenance costs for any combination of given track standard and specified traffic. However this cannot readily be used at the vehicle design or procurement stage to assess the likely consequences of different possible options.

To assist in this type of initial assessment, this study has been undertaken. Mini-MARPAS was used to study a range of possible combinations of the relevant vehicle parameters and these results are presented graphically so that the significance of parameter changes can be assessed. The results concentrate on freight vehicles with friction type damping but viscous damped freight vehicles and passenger vehicles are also considered.